AMENDMENTS TO THE CLAIMS

Claims 1-18 (Canceled)

Claim 19. (NEW) A method of operating an analyte evaluation instrument to determine the analyte content of a sample disposed on a test element, the method comprising:

operating an optical measuring device to determine the amount of the sample placed on the test element based on an interaction between a control substance disposed on the test element and a sample matrix of the sample, and

operating the optical measuring device to determine the analyte content of the sample based on an interaction between a reagent disposed on the test element and the analyte in the sample.

Claim 20. (NEW) The method of claim 19, further comprising:

operating the optical measuring device to correct the analyte content of the sample if the amount of the sample placed on the test element is determined to be less than a predetermined calibration value.

Claim 21. (NEW) The method of claim 19, wherein:

determining the amount of the sample placed on the test element includes assessing a volume of blood placed on the test element.

Claim 22. (NEW) The method of claim 19, wherein:

determining the analyte content of the sample includes determining the glucose content of the sample.

Claim 23. (NEW) A system for detecting an underdosage of a test element, the system comprising:

an optical measuring device that includes (i) a light emitter device capable of illuminating the test element with (A) light capable of generating a first photometrically detectable signal upon interacting with a reagent disposed on the test element after the reagent interacts with an analyte contained in a sample disposed on the test element and (B) light capable of generating a second photometrically detectable signal upon interacting with a control substance disposed on the test element after the control substance interacts with a sample matrix of the sample disposed on the test element and (ii) a light detector device capable of receiving the first photometrically detectable signal and the second photometrically detectable signal;

an electronic circuit operatively coupled to the optical measuring device, wherein the electronic circuit is configured to:

analyze the first photometrically detectable signal from the optical measuring device to determine the analyte content of the sample based on the concentration of the analyte in the sample, and

analyze the second photometrically detectable signal from the optical measuring device to determine whether an underdosage of the sample has occurred on the test element based on the interaction between the control substance and the sample matrix.

Claim 24. (NEW) The system of claim 23 wherein:

the electronic circuit is further configured to correct the analyte content of the sample if the amount of the sample placed on the test element is determined to be less than a predetermined calibration value.

Claim 25. (NEW) The system of claim 23 wherein the electronic circuit is configured to:

analyze the first photometrically detectable signal from the optical measuring device to determine the glucose content of the sample, and

analyze the second photometrically detectable signal from the optical measuring device to determine whether an underdosage of blood has occurred on the test element.

Claim 26. (NEW) An analyte evaluation instrument, comprising:

an optical measuring device, and

an electronic assembly electrically coupled to the optical measuring device, the electronic assembly being operable to:

operate the optical measuring device to assess the volume of a liquid sample placed on a test element, the assessment being based on an interaction between a control substance disposed on the test element and a sample matrix of the liquid sample, and

operate the optical measuring device to determine the analyte content of the liquid sample based on the concentration of the analyte in the liquid sample.

Claim 27. (NEW) An analyte evaluation instrument, comprising:

an optical measuring device, and

an electronic assembly electrically coupled to the optical measuring device, the electronic assembly being operable to:

analyze output from the optical measuring device so as to assess the amount of sample placed on a test element, wherein the assessment is based on an interaction between a control substance disposed on the test element and a sample matrix of the sample, and

analyze output from the optical measuring device to determine the analyte content of the sample, wherein the determination is based on an interaction between a reagent disposed on the test element and the analyte in the sample.

Claim 28. (NEW) A system for evaluating the content of an analyte in a sample, comprising:

a test element having (i) a test field for accepting the sample, (ii) a reagent in the test field, the reagent being capable of interacting with the analyte in the sample, wherein the interaction between the reagent and the analyte causes a first photometrically detectable signal to be produced when the test field is illuminated with light, and (iii) a control substance in the test field, the control substance being capable of interacting with a sample matrix of the sample, wherein (A) the interaction between the control substance and the sample matrix causes a second photometrically detectable signal to be produced when the test field is illuminated with light and (B) the second photometrically detectable signal is a function of the amount of the sample applied to the test field;

an optical measuring device that includes (i) a light emitter device capable of illuminating the test field with light and (ii) a light detector device capable of receiving the first photometrically detectable signal and the second photometrically detectable signal; and

an electronic assembly electrically coupled to the optical measuring device, the electronic assembly being operable to:

analyze the first photometrically detectable signal received by the light detector device to determine the analyte content of the sample, wherein the determination is based on the interaction between the reagent in the test field and the analyte in the sample, and

analyze the second photometrically detectable signal received by the light detector device to assess the amount of sample placed on the test element, wherein the assessment is based on an interaction between the control substance in the test field and a sample matrix of the sample.

Claim 29. (NEW) The system of claim 28 wherein:

the electronic assembly is further operable to correct the analyte content of the sample if the amount of the sample placed on the test element is determined to be less than a predetermined calibration value.

Claim 30. (NEW) The system of claim 28 wherein:

the analyte in the sample is glucose.

Claim 31. (NEW) The system of claim 28 wherein:

the sample is blood.

Claim 32. (NEW) A test element for use in determining the concentration of an analyte in a sample, the test element comprising:

a test field for accepting the sample;

a reagent in the test field, the reagent being capable of interacting with the analyte in the sample, wherein (i) the interaction between the reagent and the analyte causes a first photometrically detectable signal to be produced when the test field is illuminated with light and (ii) the first photometrically detectable signal is a function of the concentration of the analyte in the sample; and

a control substance in the test field, the control substance being capable of interacting with a sample matrix of the sample, wherein (i) the interaction between the control substance and the sample matrix causes a second photometrically detectable signal to be produced when the test field is illuminated with light and (ii) the second photometrically detectable signal is a function of the amount of the sample applied to the test field.

Claim 33. (NEW) The test element of claim 32 wherein:

the reagent is capable of interacting with glucose to cause the first photometrically detectable signal to be produced when the test field is illuminated with light, and

the control substance is capable of interacting with a sample matrix present in blood to cause the second photometrically detectable signal to be produced when the test field is illuminated with light.